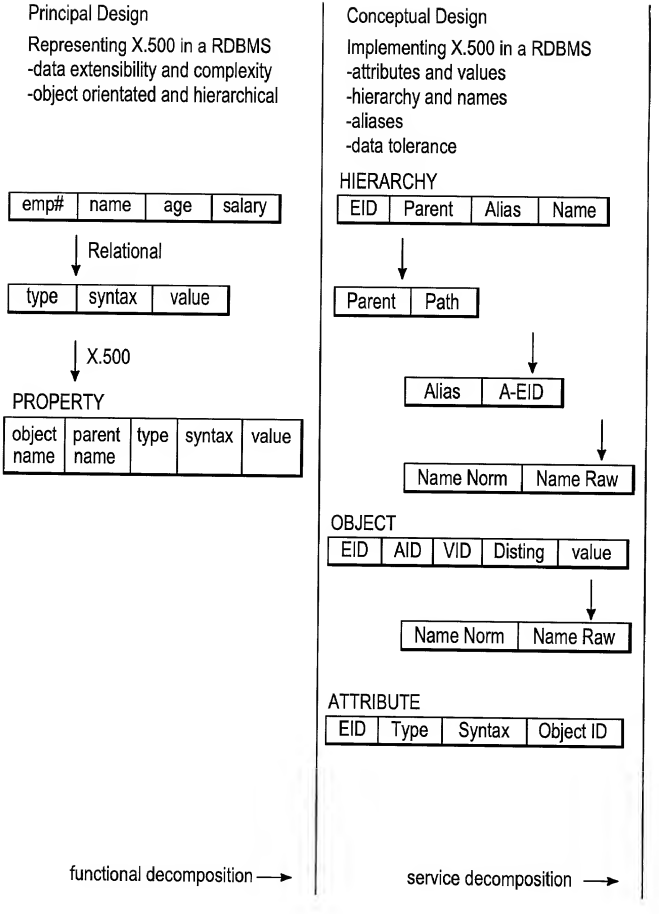

Principal Design
Representing X.500 in a RDBMS
-data extensibility and complexity
-object orientated and hierarchical
emp#
name
age
salary
Relational
type
syntax
value
X.500
PROPERTY
object name
parent name
type
syntax
value
Conceptual Design
Implementing X.500 in a RDBMS
-attributes and values
-hierarchy and names
-aliases
-data tolerance
HIERARCHY
EID
Parent
Alias
Name
Parent
Path
Alias
A-EID
Name Norm
Name Raw
OBJECT
EID
AID
VID
Disting
value
Name Norm
Name Raw
ATTRIBUTE
EID
Type
Syntax
Object ID
functional decomposition
service decomposition

FIG. 1a

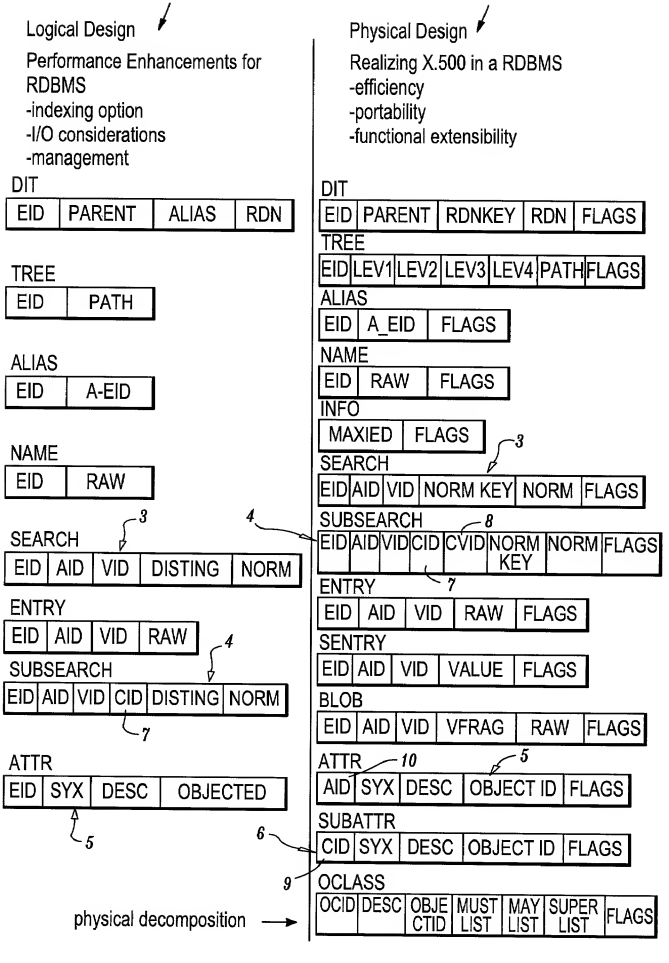

Logical Design
Performance Enhancements for RDBMS
-indexing option
-I/O considerations
-management
DIT
EID
PARENT
ALIAS
RDN
TREE
EID
PATH
ALIAS
EID
A-EID
NAME
EID
RAW
SEARCH
EID
AID
VID
DISTING
NORM
ENTRY
EID
AID
VID
RAW
SUBSEARCH
EID
AID
VID
CID
DISTING
NORM
ATTR
EID
SYX
DESC
OBJECTED
physical decomposition
Physical Design
Realizing X.500 in a RDBMS
-efficiency
-portability
-functional extensibility
DIT
EID
PARENT
RDNKEY
RDN
FLAGS
TREE
EID
LEV1
LEV2
LEV3
LEV4
PATH
FLAGS
ALIAS
EID
A_EID
FLAGS
NAME
EID
RAW
FLAGS
INFO
MAXIED
FLAGS
SEARCH
EID
AID
VID
NORM KEY
NORM
FLAGS
SUBSEARCH
EID
AID
VID
CID
CVID
NORM KEY
NORM
FLAGS
ENTRY
EID
AID
VID
RAW
FLAGS
SENTRY
EID
AID
VID
VALUE
FLAGS
BLOB
EID
AID
VID
VFRAG
RAW
FLAGS
ATTR
AID
SYX
DESC
OBJECT ID
FLAGS
SUBATTR
CID
SYX
DESC
OBJECT ID
FLAGS
OCLASS
OCID
DESC
OBJECTID
MUST LIST
MAY LIST
SUPER LIST
FLAGS
3
4
7
8
10
5
6
9

FIG. 1b

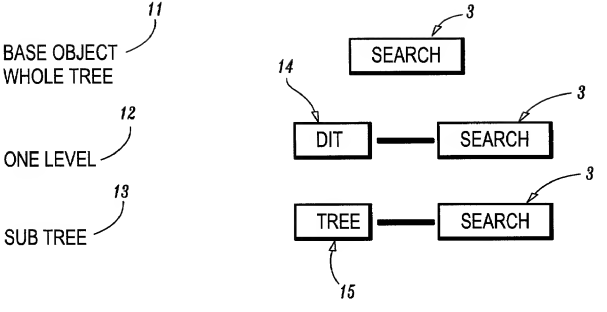

11
BASE OBJECT
WHOLE TREE
12
ONE LEVEL
13
SUB TREE
3
SEARCH
14
3
DIT
SEARCH
3
TREE
SEARCH
15

FIG. 2

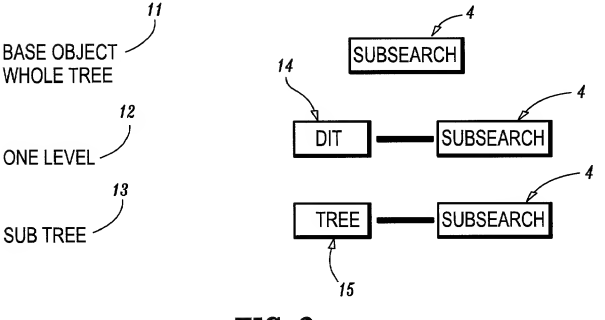
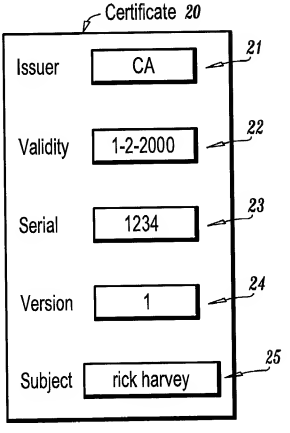

11
BASE OBJECT
WHOLE TREE
12
ONE LEVEL
13
SUB TREE
4
SUBSEARCH
14
4
DIT
SUBSEARCH
4
TREE
SUBSEARCH
15

FIG. 3

09827238.061801



SEARCH 3

CA	1-2-2000	1234	1	RICK HARVEY

OR 3A

1756723117

SUB SEARCH 4

...	CID	NORM	...
...	0	CA	... 26
...	1	20000201	... 27
...	2	1234	... 28
...	3	1	... 29
...	4	RICK HARVEY	... 30

SUBATTR 6

CID	SYX	DESC	OBJECT ID	FLAGS
0	1	ISSUER	2.5.4.99.1	0
1	11	VALIDITY	2.5.4.99.2	0
2	10	SERIAL	2.5.4.99.3	0
3	9	VERSION	2.5.4.99.4	0
4	1	SUBJECT	2.5.4.99.5	0

FIG. 4

09827736-051801

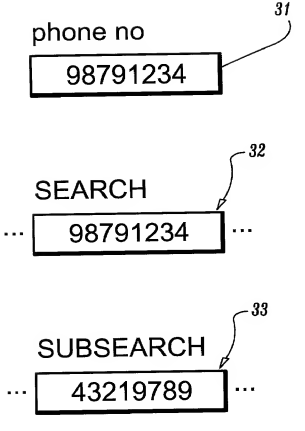


FIG. 5